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Edible Flowers of Bastar districts, Chhattisgarh, India

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Abstract

Local edible plants are more important than junk foods. They should be used by the local people for good health. Bastar is a home of many tribal communities in the state Chhattisgarh. They have good knowledge about the uses of local plants but the knowledge is not more documented. Therefore, keeping this in mind, an attempt has been made to document the edible local flowers having medicinal and economic values. Survey was made during 2021-2023. Results revealed that flowers of about 17 species are used for different purposes having food values. The present study bring attention towards need of documentation on tribal knowledge in Bastar district of Chhattisgarh, India.

INTRODUCTION

Local edible plants have gained great importance throughout the world for their ability to provide nutrients during scarcity periods and protection for minor health conditions (Pinela et al. 2017; Mishra et al. 2023). A huge number of ethnic communities and local people residing in developing countries draw a significant part of their subsistence and livelihood from local

plants (Bhatia et al. 2018). About 30,000 plants have been considered edible, but humans may have utilised more than 7000 edible local plants so far, which are still to be explored (Bhatia et al. 2018; Sharma et al. 2023). In India, it is estimated that about 800 species are consumed as local edible plants, especially by the tribal people. They are also considered non-timber forest products, or NTFPs. These plants also provide rural households with supplemental economic opportunities through collection and sale in local markets (Niveditha 2017; Ajinkya et al. 2023). Among these local edibles, the use of flowers as food is a very ancient practice in decorating various dishes and improving their aesthetic impact throughout the world. Edible flowers have always been widely used due to the presence of their aromas, colours, texture, and taste; they are part of the diet and improve the sensory quality of the dishes (Behera et al. 2019). The current habit of eating flowers is a legacy of cultures that have used them for centuries. Edible flowers have been used in Asian, European, Indian, and Middle Eastern cuisine in connection with local traditions, festive occasions, and banquets, as well as in traditional medicine (Santos and Reis 2021). It is a known fact that many edible plants used and cultivated today by civilised societies were originally identified and developed through indigenous knowledge. Unfortunately, utilisation of indigenous food plants in rural areas also lost familiarity due to the arrival of modernised and processed food items, and thereby knowledge of local edible plants was declining at alarming speed, warranting detailed research work on their nutrient value (Thakur et al. 2020; Sharma 2023). Edible flowers, like any food product, must be primarily safe for humans. No clear legal rules are available for the consumption, growing conditions, harvest dates, storage conditions, or substances authorised for the protection of edible flowers (Scariot et al. 2022). Central India constitutes a large tract of tropical dry deciduous and tropical moist deciduous forest types, and the Chhattisgarh state is densely covered with Sal forests that occupy nearly 36% of total forest cover (Kumar et al. 2003). The utilisation of essential local edibles for the survival of tribal people is still alive in many parts of Chhattisgarh. They know the importance of plants and forests for their survival, hence practicing sustainable use of plant resources (Mishra et al. 2023). Documentation of this traditional knowledge of local edible plants is essential for formulating conservation strategies. It is also necessary to raise awareness of this group of food products among those operating at different levels of the supply chain as well as consumers. Therefore, here we have documented some local edible flowers of the Bastar district of Chhattisgarh, India. Bastar District is a district of the state of Chhattisgarh in central India. The district has an area of 4029.98 km². Bastar District is located in the southern part of Chhattisgarh, between 19.24089 latitude and 81.98789 longitude, and is

situated at a height of 2000 ft above sea level. Of the total population in Basar, more than 70 percent are tribal people like the Gond Tribe, Maria, Muria, Dhruva, Bhatra, Halba Tribe, etc. The area is flourishing with hilly regions and plains. The annual rainfall is 60 inches on average. The major crop grown in the state is rice. It is well known in the whole country that Sal, Teak, Bamboo, Saja, Sarai, Haldi, etc. are also found in abundance in addition to Sal. Tribal people totally depend on the forest for their food and other purposes (Shrivastava 2016).

METHODOLOGY

A field survey was conducted from 2021 to 2023 in different tribal areas of Bastar districts. The medicinal and economical information was documented through semi-structured questionnaires, frequent interactions with tribal people, and discussion with mainly farmers, old people, and housewives (Kumar et al. 2021). The local name of the flowers and knowledge of the uses of flowers for consumption, collection, mode of food preparation, and storage were collected. To authenticate the edibility, field visits were undertaken with the villagers, especially the elders, who collect those flowers from the forest or cultivate them in their home gardens (Kumar et al. 2012). The authors have also visited the local food markets where the flowers are sold. The enumerated plants were identified by Dr. Sanjeet Kumar, Ambika Prasad Research Foundation, Odisha, India.

Results and discussion

The survey results revealed that flowers of about 17 species are commonly used as food having medicinal and economic values.

Table 1: Some edible flowers of study areas

Plant Name	Family	Food Values	Medicinal Values	Economic value	Availability
<i>Azadirachta indica</i>	Meliaceae	✓	✓	✓	January to May
<i>Bauhinia purpurea</i>	Fabaceae	✓	✓	✓	September to November
<i>Butea monosperma</i>	Fabaceae	✓	✓	✓	January to March

<i>Cassia fistula</i>	Fabaceae	✓	✓	✓	May to July
<i>Celosia argentea</i>	Amaranthaceae	✓	✓	✓	July to October
<i>Clitoria ternatea</i>	Fabaceae	✓	✓	✓	Throughout the year
<i>Cucurbita pepo</i>	Cucurbitaceae	✓	✓	✓	August to October
<i>Dillenia pentagyna</i>	Dilleniaceae	✓	✓	NIL	March to May
<i>Hibiscus sabdariffa</i>	Malvaceae	✓	✓	✓	October to December
<i>Indigofera cassioides</i>	Fabaceae	✓	✓	✓	January to March
<i>Madhuca longifolia</i>	Sapotaceae	✓	✓	✓	February to April
<i>Moringa oleifera</i>	Moringaceae	✓	✓	✓	August to January
<i>Nelumbo nucifera</i>	Nelumbonaceae	✓	✓	✓	June to August
<i>Portulaca oleracea</i>	Portulacaceae	✓	✓	NIL	December to April
<i>Sesbania grandiflora</i>	Fabaceae	✓	✓	✓	December to March
<i>Woodfordia fruticosa</i>	Lythraceae	✓	✓	NIL	February to April
<i>Hibiscus rosa-sinensis</i> 'Dainty White'	Malvaceae	NIL	✓	✓	Throughout the year

It was observed that enumerated species were belonging to 11 families and 17 genera. Out of 17 enumerated species, 7 were trees, 6 were shrubs, 2 were climbers and one herb. One aquatic plant is also listed. Details are listed in [Table 1](#) and illustrated in [Figure 1-2](#). Shrivastava (2016) reported 34 wild edible plants from Bastar district of Chhattisgarh.

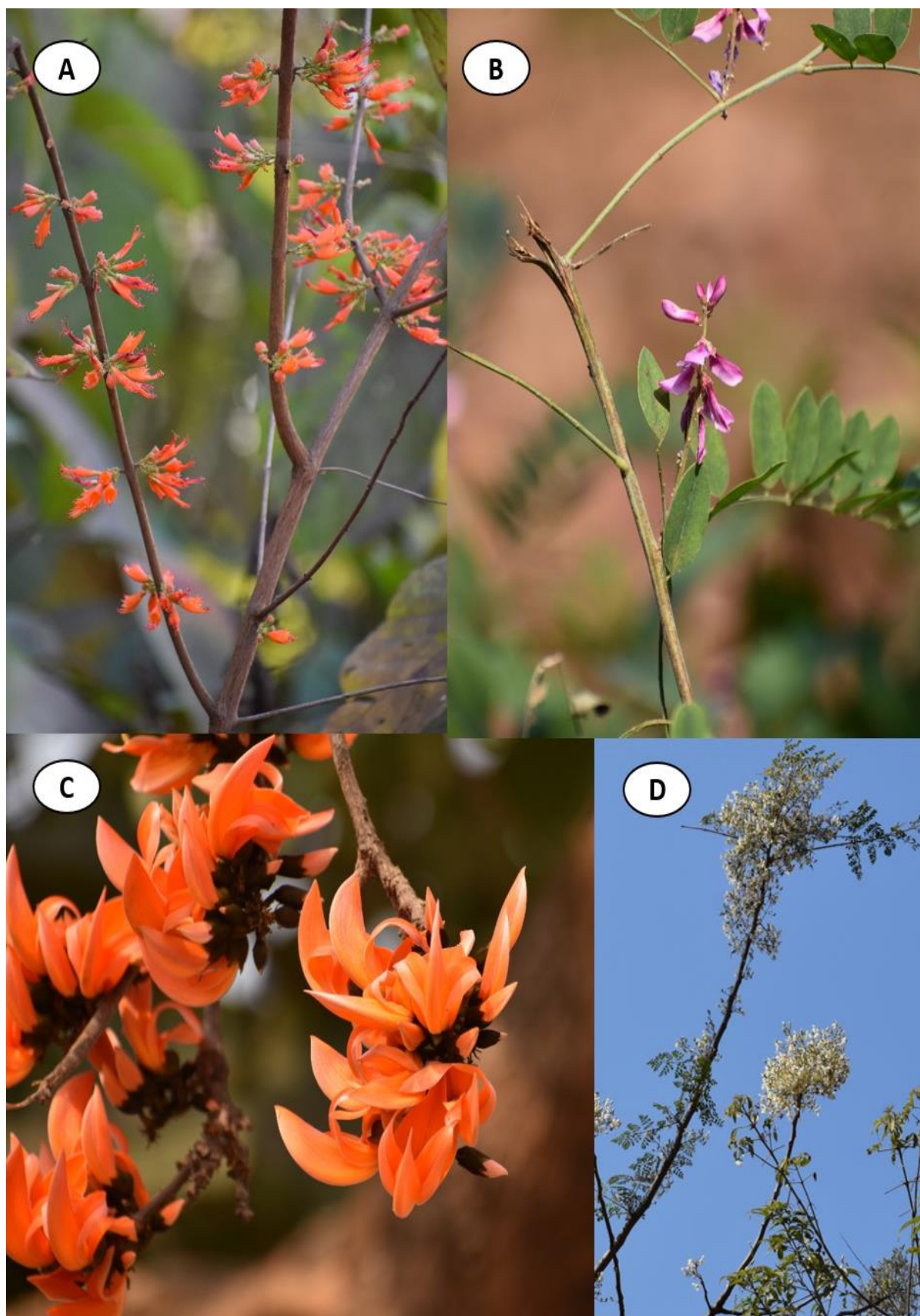


Plate 1: Some common edible flowers of Bastar districts of Chhattisgarh A) *Woodfordia fruticosa*, B) *Indigofera cassioides*, C) *Butea monosperma*, D) *Moringa oleifera*



Plate 1: Collection of information on food and nutraceutical values of flowers

CONCLUSION

Present study conclude that local flowers have food, medicinal and economic values. Therefore, need of more documentation to bring attention towards uses of local plants by urban people to get good health.

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